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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,016

07/14/2006

Thomas Weiss

CH-8460/LeA 36,955

1150

34947

7590

09/15/2008

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EXAMINER

BOYLE, ROBERT C

ART UNIT

PAPER NUMBER

4131

MAIL DATE

DELIVERY MODE

09/15/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,016	Applicant(s) WEISS ET AL.	
	Examiner ROBERT C. BOYLE	Art Unit 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/6/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2 X 11/15/2006</u> | 6) <input type="checkbox"/> Other: _____ |

Claim Objections

1. Claims 4-6 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims cannot depend from any other multiple dependent claims. See MPEP § 608.01(n).
2. Claim 6 is objected to because of the following informalities: the second line states “carried out at temperatures in the range of from 0.1 to 100 bar. The word “temperatures” should be changed to “pressures.” Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. WO/2003/029307, but for convenience, the U.S. national stage application US 2004/0242800 will be used for translation and citations.
5. Claim 1 teaches “a method for the hydrogenation of unsaturated polymers containing double bonds, characterized in that a metal-containing colloid is first prepared under reducing conditions in the presence of an unsaturated polymer present in latex form, the colloid-containing latex mixture obtained is then hydrogenated, the metal-containing colloid is then separated from the latex and the polymer latex obtained is isolated.” Takahashi et al. teaches all the elements of claim 1: the hydrogenation of a conjugated diene polymer in a latex of the conjugated diene polymer, incorporating a catalyst (paragraph 014), where the catalyst is incorporated as a

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dispersion in the system (paragraph 051) and the catalyst is prepared in the presence of the polymer (paragraph 052), the catalyst is reduced prior to hydrogenation of the polymer (paragraph 063), the latex is hydrogenated (paragraph 052) and the catalyst system is removed from the latex (paragraphs 98 and 99).

6. Claim 5 states metal salts or metal complexes which are based on metals of group VIIIB of the Periodic Table of the Elements and of ruthenium or rhodium are used for the preparation of the metal-containing colloid. Takahashi teaches using platinum group metals such as ruthenium, rhodium, palladium, osmium, iridium and platinum as the catalyst used in the dispersion. These metals are group VIIIB metals and include ruthenium and rhodium (paragraph 0039).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. as applied to claim 1 above, and further in view of Craun et al., U.S. Patent 5,470,906.

9. Takahashi does not teach unsaturated polymers of conjugated dienes or polymers of 1-5% by weight conjugated dienes and from 95-99% by weight unsaturated monomers containing vinyl groups.

10. Craun teaches forming an emulsion latex polymer where the preferred ethylenic monomer is vinyl acetate (an unsaturated monomer containing vinyl groups) copolymerized with

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other ethylenic monomers in which the copolymer formed has less than 20% other ethylenic monomers (column 8, lines 35-45). The other ethylenic monomers can include conjugated dienes (column 8, line 57). The ratio taught by Craun includes the ratio in claim 2.

11. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the polymer to be hydrogenated in Takahashi with the ratio of the monomers in the copolymer taught in Craun because changing the ratio of the monomers is known to change physical properties of the copolymer, such as the Tg or softening point, see Craun, column 9, lines 38-60. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. as applied to claim 1 above, and further in view of Craig et al. U.S. Patent 4,801,643.

13. Takahashi does not teach that the pH during the preparation of the metal-containing colloid is in the range from 3 to 6. Craig teaches creation of colloids where the pH ranges from 2.8 to 5.1 (Column 7, lines 17-38).

14. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the pH level during the preparation of the colloid in Takahashi with the pH levels taught in Craig because an acidic substance promotes the dissolution of the catalytically active ingredient and the current invention uses catalytically active ingredients, see Takahashi, paragraph 069. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

15. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. as applied to claim 1 above, and further in view of Abraham et al., U.S. Patent 4,994,528. Claim

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6 teaches the hydrogenation of the colloid-containing latex mixture is carried out at temperatures in the range of from 0.1 to 100 bar and at temperatures in the range of from 25 to 100°C.

Abraham teaches hydrogenation at temperatures from 25 to 50°C and pressures at 500 psi (34.4 bar) and at 1000 psi (68.9 bar).

16. One of ordinary skill in the art at the time the invention was made would have been motivated to modify the hydrogenation in Takahashi with the pressures and temperatures taught in Abraham because if the reaction temperature and pressure is too high, side reactions could occur, see Takahashi, paragraph 096. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT C. BOYLE whose telephone number is (571)270-7347. The examiner can normally be reached on Monday-Friday 9:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner
Art Unit 4131

/ROBERT C BOYLE/
Examiner, Art Unit 4131